

WHAT IS CLAIMED IS:

1. A lithographic projection apparatus, comprising:
 - an illuminator configured to provide a projection beam of radiation;
 - a support structure configured to support a patterning device, the patterning device configured to pattern the projection beam according to a desired pattern;
 - a substrate table configured to hold a substrate;
 - a projection system configured to project the patterned beam onto a target portion of the substrate; and
 - at least one purge gas supply system configured to provide a purge gas to at least part of the lithographic projection apparatus, the at least one purge gas supply system comprising:
 - a purge gas mixture generator comprising a moisturizer configured to add moisture to a purge gas, the purge gas mixture generator configured to generate a purge gas mixture, which purge gas mixture comprises at least one purge gas and the moisture; and
 - a purge gas mixture outlet connected to the purge gas mixture generator configured to supply the purge gas mixture to the at least part of the lithographic projection apparatus.
2. A lithographic projection apparatus according to claim 1, wherein the moisturizer comprises:
 - a vessel with at least one gas inlet and gas outlet, the at least one gas inlet and gas outlet being connected to each other via a moisturizing connection, such that in case a purge gas flows through the moisturizing connection, the purge gas is fed through a liquid present in the vessel and the purge gas is moisturized.
3. A lithographic projection apparatus according to claim 2, further comprising a dry gas inlet, connected to the at least one gas outlet, configured to mix a non-moisturized purge gas with the moisturized purge gas fed through the liquid to thereby obtain the purge gas mixture.
4. A lithographic projection apparatus according to claim 2, wherein the moisturizing connection is a saturating connection for feeding the purge gas through the liquid such that the purge gas is moisturized to saturation with the moisture.

5. A lithographic projection apparatus according to claim 2, further comprising a control device connected to the vessel configured to control at least an amount of moisture present in the purge gas mixture.
6. A lithographic projection apparatus according to claim 1, wherein the purge gas mixture generator further comprises at least one regenerable filter device configured to filter at least one undesired component out of at least one of: the purge gas, the moisture or the purge gas mixture.
7. A lithographic projection apparatus according to claim 6, wherein the at least one regenerable filter device comprises two regenerable filter devices connected in parallel, the filter devices can be regenerated in an alternating manner to allow continuous filtering.
8. A lithographic projection apparatus according to claim 1, wherein the purge gas supply system further comprises a purge gas outlet configured to provide the purge gas substantially without moisture to another part of the lithographic projection apparatus.
9. A lithographic projection apparatus according to claim 1, wherein the moisture includes water vapor.
10. A lithographic projection apparatus according to claim 9, wherein the purge gas mixture contains between at least 20% and not more than 70% relative humidity water vapor.
11. A method for providing a purge gas to at least part of a lithographic projection apparatus including:
 - an illuminator configured to provide a projection beam of radiation;
 - a support configured to support a patterning device, the patterning device configured to pattern the projection beam according to a desired pattern;
 - a substrate table configured to hold a substrate; and
 - a projection system configured to project the patterned beam onto a target portion of the substrate; the method comprising:
 - generating a purge gas mixture which comprises at least one purge gas and moisture by adding moisture to a purge gas; and
 - supplying the purge gas mixture to at least a part of the lithographic projection apparatus.

12. A device manufacturing method, comprising:
- providing a substrate that is at least partially covered by a layer of radiation-sensitive material;
 - applying the method according to claim 11 to at least a part of the substrate;
 - providing a patterned projection beam of radiation;
 - projecting the patterned beam of radiation onto a target portion of the layer of radiation-sensitive material; and
 - supplying the purge gas mixture near a surface of a component used in the device manufacturing method.
13. A purge gas supply system for providing a purge gas to at least part of a lithographic projection apparatus, the purge gas supply system comprising:
- a purge gas mixture generator comprising a moisturizer configured to add moisture to a purge gas, the purge gas mixture generator configured to generate a purge gas mixture including at least one purging gas and the moisture; and
 - a purge gas outlet configured to supply the purge gas mixture to the at least part of the lithographic projection apparatus.